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PROGRAMME OF WORK ON METHODOLOGIES

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I. INTRODUCTION

A. Mandate

1. At its fourth session, the Subsidiary Body for Scientific and Technological Advice (SBSTA) had a first exchange of views on the development of a longer-term programme of work related to methodologies as mandated by decision 4/CP.1[1] and, in particular, the need to "propose a work plan and timetable for longer-term activities relating to methodological questions, including inventory methodologies and methodologies for analyzing impacts and mitigation options, and the establishment of working relationships with other bodies, in particular, the Intergovernmental Panel on Climate Change and its working groups and programmes".

2. The SBSTA took note of the extensive list of methods identified in paragraph 13 of documents FCCC/SBSTA/1996/16 and Add.1 and decided that, in addition to improving methods for greenhouse gas (GHG) inventories, the following topics should initially be given a particular priority in the context of the needs of the Convention, without indicating a view on the relative ranking or the forum for conducting the work:

- Methods for assessing mitigation measures and policies;
- Methods for assessing adaptation options;
- Methods for projecting GHG emissions and removals by sinks;
- Methods for evaluating and monitoring the effectiveness and effects of specific policies and measures to limit emissions or enhance removals of greenhouse gases;
- Methods to assess mitigation and adaptation technologies;
- Methods to assess the impacts of climate change; and
- Methods for socio-economic cost-benefit analyses of adaptation options and mitigation measures and policies.

3. The SBSTA also noted that the development, testing and diffusion of methods will require additional financial support. It agreed that several options should be pursued including:

(a) Encouraging governments to provide greater support to national, regional and international organizations and institutions;

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[1] For texts of decisions adopted by the Conference of the Parties (COP) at its first session, see document FCCC/CP/1995/7/Add.1.

(b) Considering possibilities for Global Environment Facility (GEF) funding; and

(c) Providing for additions to the secretariat budget and/or contributions to the Supplementary Fund for the period 1998-1999 (FCCC/SBSTA/1996/20).

4. At its fifth session, the SBSTA discussed the issue on the basis of the advice of an informal consultative group under the Chairmanship of two delegates, which had before it a report by the Joint Working Group (JWG) of the officers of the IPCC and the UNFCCC. The report discussed, among other items, a division of labour between the IPCC and bodies of the Convention. The SBSTA noted the view expressed by the JWG that the Intergovernmental Panel on Climate Change (IPCC), cooperating with other institutions and the United Nations Framework Convention on Climate Change (UNFCCC) secretariat, should take the lead for methods related to greenhouse gas inventories, climate change impacts and socio-economic cost-benefit analyses. It requested the secretariat "to develop a report, including short scoping papers on the eight tasks using the format contained in annex II to FCCC/SBSTA/1997/4".

B. Scope of the document

5. This document responds to the above mandate by identifying a programme of work on methodological activities for the 1998-1999 biennium. It is based on comments submitted by Parties and information provided to the secretariat by international organizations, including the IPCC.[2] It should be read in conjunction with documents FCCC/SBI/1997/10 and INF.1, which address administrative and financial matters pertaining to the secretariat's proposed budget for the next biennium. It has also been prepared with cognizance of the past contributions made by the IPCC in areas such as inventories of GHGs, impacts of climate change, and assessing the vulnerability to sea-level rise and of the contributions made by national governments as part of their efforts to support country studies.

6. Taking into consideration the advice of the SBSTA and comments submitted by Parties, the secretariat proposes to restructure the tasks into several new clusters, as discussed below. Descriptions of each task are provided in a series of scoping papers, herein referred to as "task sheets", which are found in the annex.

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[2] In preparing this programme of work, the secretariat sought to obtain information from relevant international institutions on their budgets and programmes. Several institutions responded and their information is identified herein. Others did not respond. Hence, the information contained is not comprehensive. Also, in some cases the governing bodies of some organizations, for example, the IPCC, have not approved budgets for the next biennium.

C. Possible action by the SBSTA

7. The SBSTA may wish to take note of this information document, recognizing that the methodological subprogramme has to fit within the budget of the secretariat that will be discussed simultaneously by the SBI. In light of this, it may request its informal consultative group on methodologies to :

(a) Provide comments on the proposed structure of the work programme and on the specific tasks to be undertaken by the secretariat, and, in particular, endorse or modify the substantive elements; and

(b) Consider the needs of other institutions and, as appropriate, suggest options for meeting their needs during the next biennium.

8. The SBSTA may wish to request the chairpersons and other members of the informal consultative group on methodologies to harmonize their conclusions with those of any contact group set up by the SBI to consider the proposed budget of the Convention for the next biennium, including priorities for funding the methodological subprogramme within the programme budget of the secretariat and/or additions to it or to the Trust Fund for Supplementary Activities in 1998-99.

II. STRUCTURE AND CONTENT OF THE WORK PROGRAMME

A. Structure

9. Drawing on the comments from Parties, the secretariat proposes to organize the work programme into five clusters of tasks. The new structure retains the original eight tasks for the sake of clarity, but integrates several tasks into clusters to ensure that complementary aspects can be addressed more efficiently. The five methodological clusters and tasks are as follows:

A. Inventorying GHG emissions and sequestration by sinks;

B. Projections of GHG emissions and sequestration by sinks;

C. Mitigation:[3]

1. Assessing mitigation measures and policies;

2. Assessing mitigation technologies; and

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[3] It is proposed to integrate socio-cost benefit methods into the tasks in this cluster as appropriate.

3. Evaluating and monitoring the effectiveness and effects of specific policies and measures to limit or enhance removals of greenhouse gases.

D. Impacts and Adaptation:[4]

1. Assessing impacts of climate change;

2. Assessing adaptation options and technologies.

E. Socio-economic cost-benefit analysis.[5]

B. Rationale for new programme structure

10. The goal of the proposed programme of work is to ensure that information on methodologies in the form of technical papers, guidelines and workbooks is available to all Parties to the Convention.

11. Where possible, the secretariat is drawing upon the activities of other organizations. However, since the goals of these other organizations may be different, an additional effort may necessary to meet the goal as stated above. For example, one objective of the methodological work of the IPCC could be to identify methods which can be used by analysts in studying climate change issues in preparation for the Third Assessment Report (TAR). The product of such an effort might help ensure a more integrated TAR, but may not be suitable for preparing future national communications.

12. The new structure retains three tasks (inventories, projections and socio-economic cost-benefit methods) as originally proposed. It creates two new clusters on mitigation and impacts/adaptation with the intention of integrating, as appropriate, socio-economic cost-benefit methods into these clusters, particularly to ensure a connection to policies and measures. It retains socio-economic cost-benefit methods as a separate task because of the cross-cutting nature of the issues to be analyzed, but with an intention of broadening the task to include other risk assessment methods.

13. The creation of the two new clusters is intended to bring together tasks that require similar information, albeit for different models, audiences and uses. The mitigation cluster seeks to recognize that the development of tools to assess policy options and measures at the national level may require information on technologies. Similarly, methods to evaluate technologies in support of sectoral, regional or corporate strategies require technical and economic data, but of a more detailed nature. In conducting a national analysis, analysts may need to integrate emission inventory data, technology information and data on the expected

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[4] It is proposed to integrate socio-cost benefit methods into the tasks in this cluster as appropriate.

[5] This task would also include other methods of assessing risks.

effectiveness of different policies. For other purposes, these activities can be done separately. The clusters are also intended to encourage analysts that use models and the developers of models to co-operate more easily. An example of this would be experts conducting impact analyses and those seeking to develop tools to select among adaptation strategies.

14. The structure does not include methods related to activities implemented jointly, since they are provided for in other parts of the proposed programme budget. The secretariat, however, recognizes that some activities may need coordination, for example, some aspects of methods for projecting emissions at the project and national level. The structure also does not address new methods that may be needed as a result of the Kyoto meeting.

C. Overview of the clusters

15. The following is a brief summary of each cluster. Detailed information may be found in the task sheets in the annex.

16. *Inventorying GHG emissions and sequestration by sinks* - This task is composed of activities to be undertaken by the IPCC, the Organisation for Economic Cooperation and Development (OECD), and the International Energy Agency (IEA) such as the further development and evaluation of the IPCC guidelines. An example of this would be assessing scientific issues associated with land-use change and forestry and uncertainties in the guidelines. It is also composed of activities undertaken by the secretariat, namely, assessments of how the methods are being applied, the storage and maintenance of emission data from national communications and analyses of issues arising from the flexibility of calculating and reporting GHG emissions. The secretariat would also prepare analyses of special policy sensitive issues related to how emissions should be allocated, for example, emissions associated with electricity trade, temperature adjustments and bunker fuels.

17. *Projections of GHG emissions and sequestration by sinks* - The objective of this task is to improve the reporting and transparency of emission projections by Parties included in Annex I to the Convention. To achieve this objective, the work will draw initially on methodologies for making projections in different sectors as identified in Annex I communications. An additional objective will be to identify a set of tools for use by non-Annex I Parties who choose to apply them. This task will not seek to identify a single model for use by all Parties, but rather identify a set of tools and to improve transparency. Activities would be undertaken by the secretariat in co-operation with other organizations.

18. *Mitigation* - This cluster is intended to address three separate objectives aimed at informing Parties about methods to:

(a) Evaluate policy options and measures at the national level prior to implementation;[6]

(b) Choose among technologies, for example, at the sectoral, regional or corporate level; and

(c) Estimate the effects of policies and measures after they have been applied.

Different tools are required for each of the above.

The secretariat will co-operate with other international organizations, particularly the United Nations Industrial Development Organization (UNIDO), the United Nations Environment Programme (UNEP) and the OECD in undertaking these activities.

19. *Impacts and Adaptation* - This cluster is intended to inform the Parties about new methods to assess the impacts of climate change at the regional level and to select among adaptation strategies and technologies. It incorporates activities already underway by the UNEP to improve guidelines for assessing impacts with the co-operation of the University of Amsterdam and the financial support of Denmark and the Netherlands. It would build upon efforts by the secretariat to develop a series of papers on adaptation technologies and upon any relevant results of the IPCC workshop on adaptation to be held in 1998.

20. *Socio-economic cost-benefit analysis* - The objective of this cluster is to identify available tools, including other risk assessment methods, that could be used by decision makers to evaluate adaptation and mitigation strategies. Presently, comparing adaptation and mitigation options is difficult because the inherently different characteristics of such strategies. A useful first step maybe the development of a framework for such comparisons.

D. Work programme budget

21. The budget for the methodological work programme is identified in table 1. It provides an estimate of the total resources required by each cluster in the next biennium for the secretariat and other institutions. Additional details may be found in the task sheets contained in the annex. The table includes:

(a) An estimate of the total resources required;

(b) The resources provided for in the proposed programme budget of the Convention, that is, the funding provided for in document FCCC/SBI/1997/10;

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[6] There are linkages between some methods to develop projections, assess policy options and evaluate technologies, depending upon, for example, the application, sector and model design.

(c) An estimate of additional resources that would be needed for tasks not funded in the programme budget but which could be undertaken by the secretariat;

(d) An estimate of the resources other institutions may have available from their own budgets; and

(e) An estimate of the resources needed by other institutions.

22. The proposed programme budget of the secretariat includes a sub-programme on methodologies. Its work focuses on issues related to inventorying GHG emissions and sequestration by sinks, including allocating emissions, and an initial technical report on methods for projecting GHG emissions in the energy sector. Additional funds would be needed to undertake the full programme related to projections of GHG emissions and sequestration by sinks, mitigation, impacts and adaptation, and socio-economic cost-benefit analysis. FCCC/SBI/1997/INF.1 identifies limits to the activities that can be undertaken with funds proposed in the programme budget.

23. The resources likely to be available within other institutions are entirely dependent upon support from bilateral contributors and multilateral agencies. Continuing, and in some cases, additional support will be required by these institutions, if they are to provide the products identified in the work programme. Options to ensure adequate support include:

(a) Encouraging governments to provide greater support to national, regional and international organizations and institutions; and

(b) Considering possibilities for Global Environment Facility (GEF) funding.

24. The secretariat also notes that some of the products to be elaborated are different in character from the documents the secretariat has traditionally prepared for the SBSTA, since some of them may be in the form of manuals and workbooks. To prepare these products, the secretariat will need to work with other institutions in new arrangements. In doing so, it proposes to supplement the activities of other institutions and its staff with consultants and national experts, particularly for peer reviews.

25. With regard to the costs of translating, publishing and printing documents, the work programme assumes that generally these would be borne by the lead institution, unless provided for in the secretariat's budget in response to a request from a convention body.

TABLE 1. PROPOSED METHODOLOGICAL WORK PROGRAMME

Methodological Development Activity (Cluster/task)	Organizations	Total Resources required 1998-1999 [a/ b/] k (USD)/WY	Resources included in proposed programme budget 1998-1999 k (USD)	Additional secretariat tasks not funded in programme budget 1998-1999 k (USD)	Resources available by other Institutions 1998-1999	Resources needed by other Institutions k (USD)
A Inventorying GHG emissions and sinks	IPCC/OECD/IEA UNFCCC secretariat	1790 [c/] 873/6 0	0 [d/] 503	370	1520	270
B Projections of GHG emissions and sinks	UNFCCC secretariat	570/2 0	333	236	0	
C Mitigation						
1 Assessing mitigation measures and policies	UNEP/RISO	950 [e/]	0	0	300	650
2 Assessing mitigation technologies	UNIDO UNFCCC secretariat	1330 [f/] 470/2 0	0	470	0	1330
3 Evaluating and monitoring the effectiveness and effects of specific policies and measures	UNFCCC secretariat	235/1 0	0	235	0	
D Impacts and adaptation						
1 Assessing impacts of climate change	UNEP/IPCC/Vrije University/WHO [g/]	1000	0	0	400	600
2 Assessing adaptation strategies and technologies	UNFCCC secretariat	370/2 0	0	370	0	
E Socio-economic cost-benefit analysis	IPCC	100	0	0	0	100
Experts from non-Annex I Parties	UNFCCC secretariat	390	54	336		
Total resources (including WY)		8078/13 0 [h/]	890	2017	2220	2950

[a/] Secretariat work years are included as staff costs in this column In addition, this column includes the costs for consultants, experts and other organizations

[b/] Each work year (WY) is based on an average P3 level salary and support cost of 120 k (USD) plus15 K (USD) for travel p er year
Work years for international organizations are not included

[c/] Assumes level funding at 1102 CHF per year and conversion at 1 45 CHF/USD plus 270 US$ for translation, printing and dissemination of the *Revised 1996 Guidelines for inventorying GHG Emissions* in additional UN languages (No budget submitted to the IPCC plenary)

[d/] The Scientific and Technology programme budget contains 350 k (USD) in 1998 and 400 k (USD) in 1999 for general support of the IPCC

[e/] Approximately 1 5 m (USD) are available for 1997

[f/] UNIDO will attempt to solicit funds from bi-lateral donors

[g/] WHO is seeking funding for a new programme of work The amount of funding is to be determined

[h/] 5 5 Professional staff and one GS secretary for two years

Annex

Work Programme Task Sheets

Cluster A

1. Title:
Inventorying GHG emissions and sequestration by sinks.

2. Objective:
To further develop and evaluate the intergovernmentally agreed IPCC methodology for the estimation of GHG emissions and removals by sinks.

3. Rationale:
The Revised 1996 IPCC Guidelines for National GHG Inventories (IPCC Guidelines) contain a comprehensive set of methodologies for estimating the magnitude of sources and sinks of GHGs. They are used by Annex I Parties and non-Annex I Parties to the extent possible, for the preparation of national communications in meeting their commitments under Articles 4 and 12 of the UNFCCC. The purpose of this task is to ensure that the Parties have available the best available methodologies for the estimation of national GHG inventories. A second purpose is to ensure that the guidelines are applied in a consistent and transparent manner and that methods for allocating emissions are available to the Parties.

4. Approach:
(a) IPCC: The publication of the IPCC Guidelines is expected to be completed in mid-1997. Further revisions will be made to sections of the IPCC Guidelines, which are identified as priorities, such as land-use change and forestry and managing uncertainties. Revisions to the IPCC Guidelines would only be carried out in the context of the IPCC programme and in consultation with the COP/SBSTA, if there is significant scientific advancement. Revisions may also be made if requested by the IPCC Plenary. Over the near-term (1-3 years), the IPCC/OECD/IEA Programme is likely to concentrate on assessing the uncertainty of national/regional emissions estimates through data quality assessment and emission factor updates. The use of the IPCC Guidelines to prepare inventories that are transparent and that can be monitored and verified independently will also be assessed. Other components of the future work programme may also include an assessment and validation of methods for specific sectors of the IPCC Guidelines.

A priority issue requiring clarification is the future role of the IPCC regarding the publication, translation and distribution of the IPCC Guidelines in languages other than English. The IPCC has a budget shortfall of an estimated 270 k (USD) for the translation and photocopying of a full set of IPCC Guidelines in all six UN languages in 1997. This shortfall is reflected in Table I as a budget need for the 1998-1999 biennium and as an indicator of the future costs likely to be incurred for publishing,

translating and distributing such documents. Also, there are insufficient resources within the 1997 IPCC budget to respond to requests for assistance.

(b) UNFCCC secretariat: The secretariat will identify emission inventory policy and reporting needs of the Convention. Related to the compilation, synthesis and review of national communications, it will carry out reviews and compile GHG emission data. It will assess policy relevant methodological issues that influence national emission inventories submitted by Parties to encourage the presentation of consistent, transparent and comparable information, in close cooperation with the IPCC. For this purpose it will analyze the consistency of the reporting categories and sectors, the application of the IPCC and the UNFCCC guidelines and the influence of flexibility on calculating and reporting emissions. The secretariat will also analyze issues related to the allocation of emissions, such as those associated with electricity trade, weather adjustments and bunker fuels.

5. Lead/Supporting Institutions: The IPCC/OECD/IEA Unit for National GHG Inventories under Working Group I of the IPCC and the UNFCCC secretariat.

6. Specific activities in 1998-1999: The IPCC 1998 work programme is currently being developed. Proposals will be presented to the IPCC-XIII, Maldives 22 and 25 to 28 September 1997.

7. Links to other organizations: Co-operation with other organizations, national experts and IPCC delegates is conducted through the Greenhouse Gas Inventory Liaison Group (GILG) which meets on a quarterly basis. Participants from other organizations/institutions typically include UNFCCC and UNECE (United Nations Economic Commission for Europe)/CORINAIR (COoRdination-INformation-AIR).

8. Start date: The second phase of the IPCC programme was initiated in November 1994.

9. Budget:

(a) Current resources (1997):
IPCC - 1790 k (USD)

(b) Estimate of needed resources (1998-1999):
IPCC - 1790 k (USD)[7]
UNFCCC secretariat - 873 k (USD)/6.0 WY

(c) Projected resources (1998-1999):

[7] Training and capacity building are not included in this budget. These may need to be provided for by organizations responsible for enabling activities, such as the United Nations Development Programme.

It is assumed that the IPCC will provide for level support of 1520 k (USD). The UNFCCC secretariat programme budget provides for 503 k (USD) and 4.0 WY.

10. Products/Deliverables: A series of possible IPCC Expert Group meetings will be held. Each of the meetings may result in stand-alone reports on the Guidelines. These reports could eventually be incorporated into future editions of the IPCC Guidelines. The secretariat will produce a series of technical papers on methodological issues to serve as a basis for possible revisions to the reporting guidelines for Annex I and non-Annex I Parties.

Cluster B

1. Title:
Projections of GHG emissions and sequestration by sinks.

2. Objective:
To identify and distribute information on a set of methods for making projections in the energy, transportation, forestry, agriculture, industry and waste sectors in order to improve reporting by all Parties.

3. Rationale:
The revised guidelines for communications from Annex I Parties as contained in decision 9/CP.2 require estimates of future GHG emissions and sequestration by sinks. The guidelines for communications from Parties not included in Annex I, as contained in decision 10/CP.2, state that Parties should provide information "considered relevant to the achievement of the objective of the Convention and suitable for inclusion in its communication, including, if feasible, material relevant for calculations of global emission trends".

4. Approach:
This task will consider information contained in the second national communications from Annex I Parties and activities underway within international organizations, such as the OECD. The secretariat will also bear in mind the needs and capabilities of developing countries. The secretariat will hold meetings of experts knowledgeable on at least three sectors and will develop a compilation of available methods. It will seek to do this jointly with other international organizations.

5. Lead/Supporting Institutions:
UNFCCC secretariat

6. Specific activities in 1998-1999:
   (a) At least three meetings on selected sectors;

   (b) Inventory and compilation of information on methods;

   (c) Peer review documentation; and

   (d) Preparation of three reports.

7. Links to other organizations:
   (a) The OECD will hold a workshop on this subject in 1997; and

   (b) The results will be considered in planning this activity.

8. Start date: 1998

Completion date: 1999

9. Budget:

(a) Current resources (1997):
UNFCCC secretariat - none
OECD (See Cluster C.3)

(b) Estimate of needed resources (1998-1999):
UNFCCC - 570 k (USD) and 2.0 WY

(c) Projected resources (1998-1999):
The UNFCCC programme budget provides for 333 k (USD) and 2.0 WY

10. Products/Deliverables:
Reports on methods for making projections in at three sectors.

Cluster C - Task 1

1. Title:
Assessing mitigation measures and policies.

2. Objective:
To develop a guidance document for evaluating and selecting among policies and measures at the national level in the energy, forestry, and waste management sectors, with particular emphasis on the costs.

3. Rationale:
This task will support the efforts by all Parties to evaluate potential policies and measures at the national level under Article 4.1 of the Convention.

4. Approach:
The task will be undertaken by UNEP and executed by the UNEP Collaborating Centre on Environment and Energy (UCCEE) at RISØ in Denmark. The activities will build upon the work of the Second Assessment Report (SAR) of the IPCC. UNEP's current activities in this area are mainly funded by the GEF but under the project "Economics of GHG Limitation. Phase I, which started on May 1, 1996, has a duration of 2 years. This project also includes eight national mitigation studies and two regional studies which integrate the development of base line emission projections with analyses of emissions under different policy scenarios .

In addition, the UCCEE has a subprogramme component on mitigation analysis methods as part of its core collaborating centre agreement. Contributions from the subprogramme are included as in-kind contributions to the GEF project and the subprogramme will remain the core structure for the activities in the coming biennium.

The two main outputs from the present methodological work will be a general guidelines report describing the overall framework for national mitigation analysis and an analytical structure. The report will be supported by a handbook which will provide the detailed guidance on how to undertake the different parts of the analysis. Both documents will be published in English only at the end of the project in the middle of 1998.

The documents will gradually be expanded and revised over the period 1998-1999 as new material is developed and the national applications provide experience that may suggest need for changes. This underlines the need to ensure in all methodological areas not only dissemination and training, but also maintenance and inclusion of improvements based on new findings and experiences. In a related activity, the UCCEE will develop a paper to provide a consistent conceptual overview of the key cost concepts and their appropriate use for mitigation and adaptation cost analysis.

5. Lead/Supporting Institutions:
UCCEE in collaboration with national and regional institutions in developing countries.

6. Specific activities in 1998-1999:
In addition to developing the guidelines report and the handbook, the project will co-sponsor regional workshops in Africa, Asia, Eastern Europe and Latin America focusing on presenting the guidelines and on exchanging information with other national teams.[8]

7. Links to other organizations:
Co-ordination with the UNDP, the UNFCCC and the GEF secretariats as well as bilateral programmes. Also, the OECD will hold a workshop on projections and on estimating the effects of prospective measures.

8. Start date: 1998
Completion date: 1999

9. Budget:
(a) Current resources (1997):
UNEP/RISO - 1.5 M (USD) for 1997
OECD - 505 k (FFr)[9]

(b) Estimate of needed resources (1998-1999): 950 k (USD) for 1998-1999

(c) Projected resources (1998-1999): UCCEE core funds: 300 k (USD)

10. Products/Deliverables:
Guidelines on GHG emission mitigation methodologies
Case studies on national applications of such methodologies
Sub-regional guidelines
Proceedings of training workshops
Translations of documents into other languages.

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[8] Another activity considered to be important, but not explicitly provided for in the project budget is training to meet the specific needs of the subregion. The aim should be to introduce the framework and the main methodological and analytical concepts to ensure a better understanding of the scope of work as background for national activities. Also, the guideline and handbook report prepared by UNEP, UCCEE and the national teams may need to be translated into various UN languages in order to ensure most effective use.

[9] Includes the costs of a workshop and paper covering projections and effects of measures.

Cluster C - Task 2

1. Title:
Assessing mitigation technologies.

2. Objective:
The objective of this task is to identify and make available tools to assist countries, particularly developing countries, to evaluate and choose among technologies in the energy, industry, transportation, forestry, agriculture and waste management sectors.

3. Rationale:
This task will support efforts related to technology transfer, for example, under Articles 4.1, 4.5 and 9.2(c) by identifying tools to evaluate and select technologies. It is intended to support the needs of Parties wishing to make decisions about specific environmentally sound technologies.

4. Approach:
This task will initially be undertaken by UNIDO and the UNFCCC secretariat. Other international organizations will also be invited to contribute. The activities of UNIDO will focus on the development of a tool to evaluate energy efficient industrial technologies and processes in the industrial sector. Data and information about technologies in this sector have been particularly difficult to obtain in many countries, hence the activity of UNIDO fills an important gap. This work will include a technology data base and decision support software which could be used at the project level and the industry level, including seven subsectors. The secretariat will focus on compiling information on models to evaluate and select technologies in only the energy and waste sectors, taking into consideration information in national communications and from international organizations. Other sectors would be addressed in later bienniums.

5. Lead/Supporting institutions:
UNIDO
UNFCCC secretariat

6. Specific activities in 1998-1999:
UNIDO - Data acquisition for additional subsectors. Application in several countries.
UNFCCC - Identification and review of methods in the energy and waste sectors.

7. Links to other organizations:
IEA and other energy technology centers

8. Start date: 1998
Completion date: 1999

9. Budget:

(a) Current resources (1996-1997):
UNIDO - 156 k (USD)
UNFCCC secretariat - none

(b) Estimate of needed resources (1998-1999):
UNIDO - 1.334 k (USD)
UNFCCC - 470 k (USD) and 2.0 WY

(c) Projected resources (1998-1999): No core funds are available in UNIDO. UNIDO will solicit funds from bilateral donors. No resources have been provided for in the programme budget of the secretariat.

10. Products/Deliverables:
UNIDO - An inventory of technologies and a tool to help users to evaluate and compare the costs, energy requirements and emissions in seven industrial subsectors.
UNFCCC - Reports on methods for comparing and evaluating technologies on the basis of cost, performance and other criteria in the energy and waste sectors.

Cluster C - Task 3

1. Title:
Evaluate and monitor the effectiveness and effects of specific policies and measures to limit or enhance removals of greenhouse gases.

2. Objective:
To identify methods for determining the effectiveness and effects of policies and measures that have been implemented. The methods would be used during or after implementation of a measure.

3. Rationale:
This task will support the efforts of Parties to prepare assessments of the effects of measures taken to implement the Convention, for example under Articles 4.1 and 4.2, as required under Article 9.2(b). This could provide information to other Parties seeking to implement similar policies and measures.

4. Approach:
A determination of the effectiveness and effects of a single policy measure is an extremely complex task, particularly within a mixture of many existing policies that aim to achieve similar and sometimes contradictory objectives. In some cases, physical indicators like the amount of new floor space with efficient lighting can be monitored to determine the results and implementation costs associated with a measure. Many macro-economic policies are much more complicated. The secretariat will monitor the activities of the OECD and other international organizations undertaking work in this area and will review information in the second national communications from Annex I Parties. It will also collect information from other sources. The secretariat will further hold a meeting of representatives from Parties and will develop a report for consideration by the SBSTA.

5. Lead/Supporting institutions:
UNFCCC secretariat

6. Specific activities in 1998-1999:
Meeting of representatives (1998)/Report (1999)

7. Links to other organizations:
The OECD will hold a workshop related to Clusters B and C - Task 1. Some of the results may be applicable to this activity.

8. Start date: 1998
Completion date: 1999

9. Budget:

(a) Current resources (1997):
UNFCCC secretariat - none

(b) Estimate of needed resources (1998-1999):
UNFCCC 235 k (USD) and 1.0 WY

(c) Projected resources (1998-1999):
There are no resources in the programme budget of the secretariat.

10. Products/Deliverables:
Report on methods for assessing the effectiveness of policies and measures.

Cluster D - Task 1

1. Title:
Assessing impacts of climate change - Development of a Handbook on Methods for Climate Change Impact Assessment and Adaptation Strategies.

2. Objective:
To provide Parties to the Convention, developing countries and countries with economies in transition, in particular, with an internationally accepted handbook describing methods that can be used to identify climate change impacts and to identify adaptation options/measures.

3. Rationale:
In response to the recommendation of a workshop in November 1993 in Toronto on "Impacts and Adaptation to Climatic Variability and Change", reaffirmed by the Bureau of IPCC - Working Group II (WG II) at the seventh session of the IPCC Bureau, UNEP initiated a project in November 1994 to begin the development of a handbook for climate change impact and adaptation assessments based on a handbook previously developed as part of the US Country Studies Program. As a result of the first phase of this UNEP funded project, a draft version of this "Handbook on Methods for Climate Change Impact Assessment and Adaptation Strategies" was completed in November 1996 and is now being applied in a series of country studies. Although the current draft version of the handbook developed in phase I of this project is a useful tool for such national assessments, it is acknowledged that additional refinements are required to improve the consistency between the various sectoral chapters, so as to incorporate the improvements recommended by the country study teams and to include the recommendations coming from a larger group of international experts.

4. Approach:[10]
This task is aimed at developing and distributing an advanced version of the handbook that incorporates the recommendations of international experts and the lessons learned by country study teams. Under the coordination of the Institute for Environmental Studies (IVM), an editorial group will be formed to coordinate all project activities. Subsequently, the principal authors will revise each chapter. The IVM will coordinate printing of 200 copies of the final draft version. This handbook will be sent out to experts and Parties to the UNFCCC based on a mailing list developed in collaboration with the IPCC in order to initiate the formal peer review process. Finally, the results of the peer review will be incorporated for consideration by the IPCCV and subsequently by the SBSTA.

5. Lead/Supporting institutions:

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[10] This could include a description of what is available and what is needed.

UNEP- Nairobi
Institute for Environmental Studies (IVM). Vrije University. Amsterdam

6. Specific activities in 1998-1999:
The activities in 1998-1999 will include formal review by the IPCC. revisions based on comments. translation. printing and distribution of a large number of copies to Parties to the Convention.

7. Links to other organizations:
United Nations Institute for Training and Research (UNITAR) (CC: TRAIN) is also expected to participate and wishes to develop training materials to support the application of the handbook in future national studies

8. Start date: 1997
Completion date: 1998

9. Budget:
(a) Current resources (1997):
UNEP/Vrije University - 400 k (USD)

(b) Estimate of needed resources (1998-1999):
UNEP/Vrije University - 600 k (USD)

(c) Projected resources (1998-1999):
None

10. Products/Deliverables:
IPCC approved handbook

Cluster D - Task 2

1. Title:
Assessing adaptation options and technologies.

2. Objective:
To develop information on methods to compare adaptation options and technologies.

3. Rationale:
This task will support efforts of Parties to cooperate in preparing for adaptation under Article 4.1(e) by developing information on tools to evaluate and compare options and technologies.

4. Approach:
This task will be integrated with the secretariat's activities on adaptation technologies. There are a limited number of models at the present time which have been developed to assist Parties in identifying adaptation options at the national level and in a few cases, at the sectoral level. The secretariat will convene a meeting of experts to identify existing models and will prepare an initial compilation of tools for consideration by the Parties.

5. Lead/Supporting institutions:
The secretariat in co-operation with other international organizations.

6. Specific activities in 1998-1999:
Conduct meeting of experts. Prepare an initial compilation of available methods.

7. Links to other organizations:
A number of national academic and other institutions as well as international organizations have developed methods that will need to be identified and reviewed.

8. Start date: 1998
Completion date: 1999

9. Budget:
(a) Current resources (1997):
None

(b) Estimate of needed resources (1998-1999):
UNFCCC secretariat - 370 k (USD) and 2.0 WY

(c) Projected resources (1998-1999):
There are no resources in the programme budget of the secretariat.

10. Products/Deliverables: Initial report on available methods to evaluate adaptation strategies and technologies.

Cluster E

1. Title:
Socio-economic cost-benefit analyses of adaptation and mitigation policies and measures.

2. Objective:
To develop information on methods to compare adaptation and mitigation policies and measures.

3. Rationale:
It is expected that Parties will continue to compare adaptation and mitigation strategies over the next decade. This task will attempt to identify the tools for assessing different strategies as may be needed, for example, under Article 4.1(e), (f), and (g).

4. Approach:
The IPCC could be requested to host a meeting to conduct an initial review of various methods, including cost-benefit techniques, integrated assessment models, decision analysis tools and other risk assessment methods in 1998-1999. On the basis of this meeting, recommendation for future work will be made, which could include a compilation of existing methods.

5. Lead/Supporting institutions: IPCC

6. Specific activities in 1998-1999: Meeting of experts

7. Links to other organizations:
A number of academic and other institutions are developing approaches that could be examined.

8. Start date: 1998
Completion date: 1999

9. Budget:

(a) Current resources (1997):
None

(b) Estimate of needed resources (1998-1999):
100 k (USD) for the IPCC[11]

(c) Projected resources (1998-1999):
None currently planned by the IPCC

10. Products/Deliverables: A preliminary report identifying tools for preparing cross-cutting socio-economic and risk assessments.

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[11] Preliminary estimate/not provided by the IPCC.